

AMENDMENTS TO THE CLAIMS

1. (Canceled)

2. (Currently amended) [[The apparatus of claim 1]] An apparatus for post-grouting a rock bolt comprising:

an elongate sleeve having first and second ends and being adapted to receive a rock bolt with a first end thereof extending beyond said sleeve first end and a second end thereof extending beyond said sleeve second end;

an end fitting attached to said sleeve second end, said end fitting having a central aperture for receiving said rock bolt and one or more group passages communicating the exterior of said end fitting with the interior of said sleeve; and

seal means for sealing said one or more said group passages, said seal means being displaceable between open and closed positions;

wherein said seal means is biased towards said closed position at which said one or more passages is/are substantially sealed and injection of grout into said end fitting via said passage(s) deflects said seal means to said open position enabling flow of grout through said one or more passages and into said sleeve; and

wherein said end fitting comprises:

a female component secured to said sleeve second end and defining a concavity facing away from said sleeve, and

a male component adapted to be threaded onto said rock bolt second end and to be received within said female component concavity so as to transfer compressive loads between said male and female components,

wherein said one or more grout passages is/are defined between said male and female components and said male component is provided with a nut drive surface for threading said male component onto said rock bolt second end to tension said rock bolt.

3. (Original) The apparatus of claim 2 wherein said female component concavity is semi-spherical and said male component is provided with a generally complementary convex semi-spherical peripheral surface.

4. (Original) The apparatus of claim 2 wherein said female component is provided with coupling means on a peripheral surface thereof for coupling to a grout delivery hose coupling.

5. (Original) The apparatus of claim 2 wherein a plurality of said passages are defined as recesses in the peripheral surface of said male component.

6. (Original) The apparatus of claim 5 wherein said seal means comprises a flap associated with each of said grout passages.

7. (Original) The apparatus of claim 6 wherein said flaps are formed of a resilient plastics material.

8. (Original) The apparatus of claim 7, wherein said seal means further comprises a ring-like member extending about said male component with said flap(s) being integrally formed with said ring-like member.

9. (Original) The apparatus of claim 2 further including a plastic cap at least substantially covering said end fitting male component.

10. (Original) The apparatus of claim 9 wherein said plastic cap incorporates said seal means.

11. (Original) The apparatus of claim 9 wherein a peripheral edge of said cap is adapted to engage a groove provided in said end fitting female component concavity to thereby retain the assembly of said plastic cap, said end fitting male component and said end fitting female component.

12. (Currently amended) The apparatus of claim ~~[[1]]~~ 2 wherein said apparatus is provided with a tapered cap at said sleeve first end, said tapered cap being provided with a central open passage for receipt of said rock bolt and a plurality of apertures in a side wall of said cap for passage of grout therethrough.

13. (Original) The apparatus of claim 2 wherein said female component is formed of stainless steel.

14. (Currently amended) A rock bolt assembly comprising:
an apparatus according to claim ~~[[1]]~~ 2, including:
a rock bolt having first and second ends, said rock bolt being received by said elongate sleeve with said rock bolt first end extending beyond said sleeve first end and said rock bolt second end extending beyond said sleeve second end, said rock bolt further being received by said end fitting central aperture.

15. (Currently amended) An apparatus for post-grouting a rock bolt comprising:
an elongate sleeve having first and second ends and being adapted to receive a rock bolt with a first end thereof extending beyond said sleeve first end and a second end thereof extending beyond said sleeve second end;
an end fitting attached to said sleeve second end, said end fitting having a central aperture for receiving said rock bolt and one or more grout passages communicating the exterior of said end fitting with the interior of said sleeve;
a coupling member having first and second ends and an internal cavity opening onto said coupling member first end, said coupling member first end being adapted to be coupled

to said end fitting with said coupling member cavity communicating with said one or more grout passages, said coupling member being provided with an inlet port adapted to be coupled to a grout delivery hose and a valve means for sealing said inlet port, wherein said coupling member is adapted to enclose said rock bolt second end within said coupling member ~~activity~~ cavity.

16. (Original) The apparatus of claim 15 wherein said coupling member is formed of a plastics material.

17. (Original) The apparatus of claim 15 wherein said end fitting comprises:
a female component secured to said sleeve second end and defining a concavity facing away from said sleeve, and

a male component adapted to be threaded onto said rock bolt second end and to be received with said female component concavity and engage the wall thereof,

wherein said one or more grout passages is/are defined at the interface between said male and female components and said male component is provided with a nut drive surface for threading said male component onto said rock bolt second end to tension said rock bolt.

18. (Original) The apparatus of claim 17 wherein said female component concavity is semi-spherical and said male component is provided with a mating convex semi-spherical peripheral surface for engaging said semi-spherical concavity.

19. (Previously presented) A rock bolt assembly comprising:
an apparatus according to claim 15, including:
a rock bolt having first and second ends, said rock bolt being received by said elongate sleeve with said rock bolt first end extending beyond said sleeve first end and said rock bolt second end extending beyond said sleeve second end, said rock bolt further being received by said end fitting central aperture.

20. (Original) An apparatus for post-grouting a rock bolt comprising:
an elongate sleeve having first and second ends and being adapted to receive a rock bolt with a first end thereof extending beyond said sleeve first end and a second end thereof extending beyond said sleeve second end; and
an end fitting attached to said sleeve second end and having a central aperture for receiving said rock bolt, said end fitting comprising:
a female component secured to said sleeve second end and defining a concavity facing away from said sleeve, and
a male component adapted to be threaded onto said rock bolt second end and to be received within said female component concavity and engage the wall thereof,
wherein one or more grout passages communicating the exterior of said end fitting with the interior of said sleeve are defined at the interface between said male and female components and said male component is provided with a nut drive surface for threading said male component onto said rock bolt second end to tension said rock bolt,
further wherein a plastic cap at least substantially covers said end fitting male component, a peripheral edge of said cap being adapted to engage a groove provided in said end fitting female component concavity to thereby retain the assembly of said plastic cap, said end fitting male component and said end fitting female component.

21. (Original) The apparatus of claim 20 wherein said plastic cap incorporates a seal means for sealing said one or more grout passages, said seal means being displaceable between open and closed positions and being biased towards said closed position at which said one or more passages is/are substantially sealed and injection of grout into said end fitting via said passage(s) deflects said seal means to said open position enabling flow of grout through said one or more passages and into said sleeve.

22. (Original) The apparatus of claim 20 wherein said male component has a blind threaded aperture for threadingly receiving said rock bolt second end.

23. (Original) The apparatus of claim 20 wherein said male component has a threaded aperture extending through the length thereof for threadingly receiving said rock bolt second end, said threaded aperture and/or said rock bolt being configured to prevent said rock bolt second end extending beyond said threaded aperture.

24. (Previously presented) A rock bolt assembly comprising:
an apparatus according to claim 20, including:
a rock bolt having first and second ends, said rock bolt being received by said elongate sleeve with said rock bolt first end extending beyond said sleeve first end and said rock bolt second end extending beyond said sleeve second end, said rock bolt further being received by said end fitting central aperture.